

Remarks/Arguments

In this Response, claims 11-15 are cancelled, without prejudice; claims 1 and 16 are amended. These amendments are fully supported by the originally filed application. No new matter has been added.

Claims 1-10 and 16-28 are presented for examination.

Rejections Under 35 U.S.C. § 102

In the Office Action claims 1-3 and 10 are rejected under 35 U.S.C. § 102(b) as being anticipated by Banks et al. (U.S. 6,015,722) (hereinafter “Banks”).

Claim 1, as amended, recites, among other things, “a heat spreader lid having a surface parallel to the surface of the die carrier, the heat spreader lid physically contacting the surface of the die carrier, the heat spreader lid mounted directly on the die carrier to form a lid cavity.”

On the other hand, Banks teaches a lid 532 and a constraining ring 522 forming a cavity 530 that may correspond to the lid as recited in claim 1 when both the lid 532 and the constraining ring 522 are combined together, since the constraining ring 522 is contacting the surface of the die carrier 512 through an adhesive layer 528. See FIG.9. However, Banks cannot be said to teach or even suggest a lid as a single material that is physically contacting the surface of the die carrier and mounted directly on the die carrier, because Banks teaches away from having the lid 532 and the constraining ring 522 as a single material. It is stated in column 26, lines 43-45, of Banks that “the constraining ring 522 stiffens the package 512 to permit easier handling of the package prior to and after chip attachment.” (emphasis added.) If Banks is to modify the structure to combine the lid 532 and the constraining ring 522 as a single material and place it before the attachment of the chip, the lid in this structure prevents attachment of the chip. Therefore, claim 1 is patentable over Banks. Claims 2-3, and 10 depend on claim 1 and also patentable for at least the reasons given above.

Rejections Under 35 U.S.C. § 103

In the Office Action claims 4-9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Banks in view of Applicant Admitted Prior Art (AAPA).

AAPA was cited for the proposition that it teaches “the use of a thermal interface material.” However, AAPA fails to teach the above-mentioned deficiencies of Banks with respect to claim 1. Claims 4-9 depend on claim 1. Accordingly, these claims are also patentable over this asserted combination.

In the Office Action, claims 16-21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Banks in view of Low et al. (U.S. 6,404,626) (hereinafter “Low”).

Low was cited for the proposition that it teaches a circuit board, a dynamic random access memory, an input/output interface, etc. However, Low fails to teach the above-mentioned deficiencies of Banks with respect to claim 1. Claim 16 recites similar limitations as claim 1. Therefore, claim 16 and claims 17-21 that depend on claim 16 are also patentable over this asserted combination.

In the Office Action, claims 22-28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Banks in view of Low, and further in view of AAPA.

Both Low and AAPA fail to teach the above-mentioned deficiencies of Banks with respect to claim 1 or claim 16. Claims 22-28 depend on claim 16 and are also patentable over this asserted combination.

Conclusion

For these reasons, a Notice of Allowance is respectfully requested. If the Examiner has any questions concerning the present paper, the Examiner is kindly requested to contact the undersigned at 503-796-2084. If any fees are due in connection with filing this paper, the Commissioner is authorized to charge Deposit Account No. 500393.

Respectfully submitted,
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